

CLAIMS

1. A mouse for a computer system, said mouse capable of conveying signals to the computer indicative of movement of said mouse across a working surface and being actuatable by a user to generate a signal to a computer, said mouse comprising:

a casing having a bottom part restable on the working surface and an upper part, said casing longitudinally extending from a front end to a rear end and having transversely spaced sides which are spaced so that the casing is positionable between distal phalanxes of a user's ring and little fingers, and a distal phalanx of a user's thumb when a user's law palm, user's ring and little fingertips, and a side of the distal phalanx of the user's thumb are resting on the working surface without gripping said mouse in the naturally relaxed curled fingers and hand position;

a primary button depressable relative to said casing and disposed at an upper front portion thereof; and

a primary fingertip receptacle at least partially extending upwardly from a surface of said primary button and configured for securely receiving a user's index fingertip thereby allowing the user to move the mouse in any direction on the working surface without gripping or pinching the mouse with other fingers, said primary button being actuatable by a generally downward forward force applied by said index finger when stretching against said primary receptacle.

2. The mouse of claim 1 further comprising:

- a secondary button depressable relative to said casing and disposed transversely of said primary button at an upper front portion of said casing;
- a secondary fingertip receptacle at least partially extending upwardly from a surface of said secondary button and configured for receiving a user's middle fingertip thereby allowing the user to move the mouse in any direction on the working surface without gripping or pinching the mouse with other fingers, said secondary button being actuatable by a generally downward forward force applied by said middle finger against said secondary receptacle; and
- a form of a rear part of said casing providing sufficient clearance between an upper surface and a rear surface of said casing, and a user's palm, and the user's index and middle fingers being placed in the respective receptacle, so that said upper surface and said rear surface of said casing do not interfere with the user's palm and the fingers when the user manipulates said mouse.

3. The mouse of claim 2 further comprising a wheel button disposed between the primary receptacle and the secondary receptacle, said wheel button accessible by at least one of the user's finger when a user's index finger and a user's middle finger are placed in the respective receptacle of the primary and secondary buttons.

4. The mouse of claim 2, wherein the primary and secondary receptacles are located on the primary button and the secondary button, respectively, so that a gap between the user's index finger and the user's middle finger being placed in

the respective receptacles has a spacing distance, which allows a wheel button to be positioned between them.

5. The mouse of claim 3, wherein each said receptacle has a front portion and a center of said wheel is disposed rearwardly from the front portions of said receptacles.

6. The mouse of claim 1 wherein said primary receptacle is formed from a moulded component comprising a pad and a rounded section, which tapers upwardly from the pad *and is symmetric about a medial plane.*

7. The mouse of claim 2, wherein said secondary receptacle is formed from a moulded component comprising a pad and a rounded section, which tapers upwardly from the pad and is symmetric about a medial plane.

8. The mouse of claim 4, wherein user's index and middle fingertips being placed in respective receptacles which are elevated from the working surface at a height, which is reduced and substantially defined by an outside diameter of said wheel.

9. The mouse of claim 1 wherein the sides each have a generally concave shape, which define a user's thumb, and a user's ring and little fingertips pinching areas.

10. The mouse of claim 9, wherein both sides of said casing in a user's thumb and a user's ring fingertip pinching areas are substantially vertical to the working surface over which the mouse moves.

11. The mouse of claim 9, wherein a user's side of the distal phalanx of the thumb and a user's ring and little fingertips being placed on the respective pinching areas register with the working surface over which the mouse moves when a user manipulates the mouse.

12. The mouse of claim 2, wherein a space exists between the user's palm and an upper surface of the rear part of the casing when the user shifts the mouse by stretching or bending the user's index and middle fingers placed in the respective receptacles.

13. The mouse of claim 2 wherein a length of the rear part of the casing measured from the front edge of said primary and secondary receptacles allows a user to shift the mouse from a neutral position of the user's finger by bending the user's index and middle fingers further in a pocket formed by the user's hand.

14. The mouse of claim 1 further comprising at least one additional button having a user's index finger contact area and disposed rearwardly from said primary receptacle so as to be capable of being actuated by bending the user's index finger positioned in said primary receptacle and simultaneous pinching the mouse between a user's thumb and a user's ring and/or little fingertips.

15. The mouse of claim 14, wherein a contact portion of the primary receptacle and the index finger contact area of the additional button together form a contact shape that substantially conforms to the shape of the distal phalanx of the user's index finger.

16. The mouse of claim 15, wherein a surface of the contact portion of the primary receptacle is substantially level with a surface of the index finger contact area of the additional button at all points along a boundary between the primary receptacle and the index finger contact area of the additional button.

17. The mouse of claim 14, wherein an interior portion of the distal phalange of the user's index finger contacts both a front portion of said primary receptacle and a portion of the contact area of the additional button when the user's index fingertip is positioned in said primary receptacle.

18. The mouse of claim 14, wherein said additional button is actuated by bending the index finger and simultaneously pinching the sides of the mouse between the user's thumb and the user's ring and/or little fingertips.

19. The mouse of claim 2 further comprising a second additional button having a middle finger contact area and disposed rearwardly from said secondary receptacle so as to be capable of being actuated by bending the user's middle finger positioned in said secondary receptacle and simultaneous pinching the mouse between a user's thumb and a user's ring and/or little fingertips.

20. The mouse of claim 19, wherein a contact portion of the secondary receptacle and the middle finger contact area of the second additional button together form a contact shape that substantially conforms to the shape of the distal phalanx of the user's middle finger.

21. The mouse of claim 20, wherein a surface of the contact portion of the secondary receptacle is substantially level with a surface of the middle finger

contact area of the second additional button at all points along a boundary between the secondary receptacle and the middle finger contact area of the second additional button.

22. The mouse of claim 19, wherein an interior portion of the distal phalange of the user's middle finger contacts both a front portion of said secondary receptacle and a portion of the contact area of the second additional button when the user's middle fingertip is positioned in said secondary receptacle.

23. The mouse of claim 19, wherein said second additional button is actuated by bending the middle finger and simultaneously pinching the sides of the mouse between the user's thumb and the user's ring and/or little fingertips.

24. The mouse of claim 2, wherein said primary and secondary buttons each are parts of ends of levers, which longitudinally extend from a common plate on which other ends of the levers are firmly fixed.

25. The mouse of claim 19, wherein said additional buttons each are moveably fixed on said common plate.

26. The mouse of claim 24 wherein said common plate defines a horizontal plane.

27. The mouse of claim 24, wherein said casing has a cross panel in relation to said sides and said common plate is inclined toward said front end relative to said cross panel.

28. The mouse of claim 1 further comprising a mouse movement sensing system wherein a sensor thereof is located on said bottom part rearwardly from said primary receptacle along a central longitudinal axis of said casing.

29. A computer mouse for a computer system, wherein said mouse has a casing with at least one button depressable relative to said casing and disposed at an upper portion thereof to generate a signal to the computer, characterized in that a moulded component is mounted to an upper surface of the button and is configured to form a receptacle having the shape of a fingertip of a user.

30. The mouse of claim 29, wherein there are two buttons, characterized in that a moulded component is mounted to an upper surface of each button to whereby one component is configured to form a receptacle having the shape of an index finger of a user and the second moulded component is configured to form a receptacle having the shape of a middle fingertip of a user.